

# Montana Teen Driver Education and Training

## Module 5.1

# Adverse Conditions

# Objectives

- Know how weather, surface conditions and visibility create adverse driving conditions.
- Use Zone Control principles to identify adverse driving conditions.
- Develop the skill necessary to drive in adverse conditions.
- Describe how to prepare for adverse conditions.

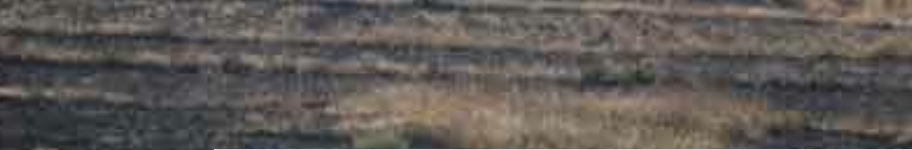
# What are Adverse Conditions?

- Adverse: “bad or unfavorable, not good.”
- Weather and atmospheric conditions
- Roadway and surface conditions
- Light and glare or darkness

# Zone Control for Adverse Conditions

- **Find**—Identify the adverse condition as a closed zone.
- **Solve**—Check related zones, adjust speed and lane position for conditions.
- **Control**—Make sure your solution works and make adjustments as needed.

# **ADVERSE WEATHER AND ATMOSPHERIC CONDITIONS**



# Good Solution?



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Glare



Unlighted Highway



Fog



Glare and Rain



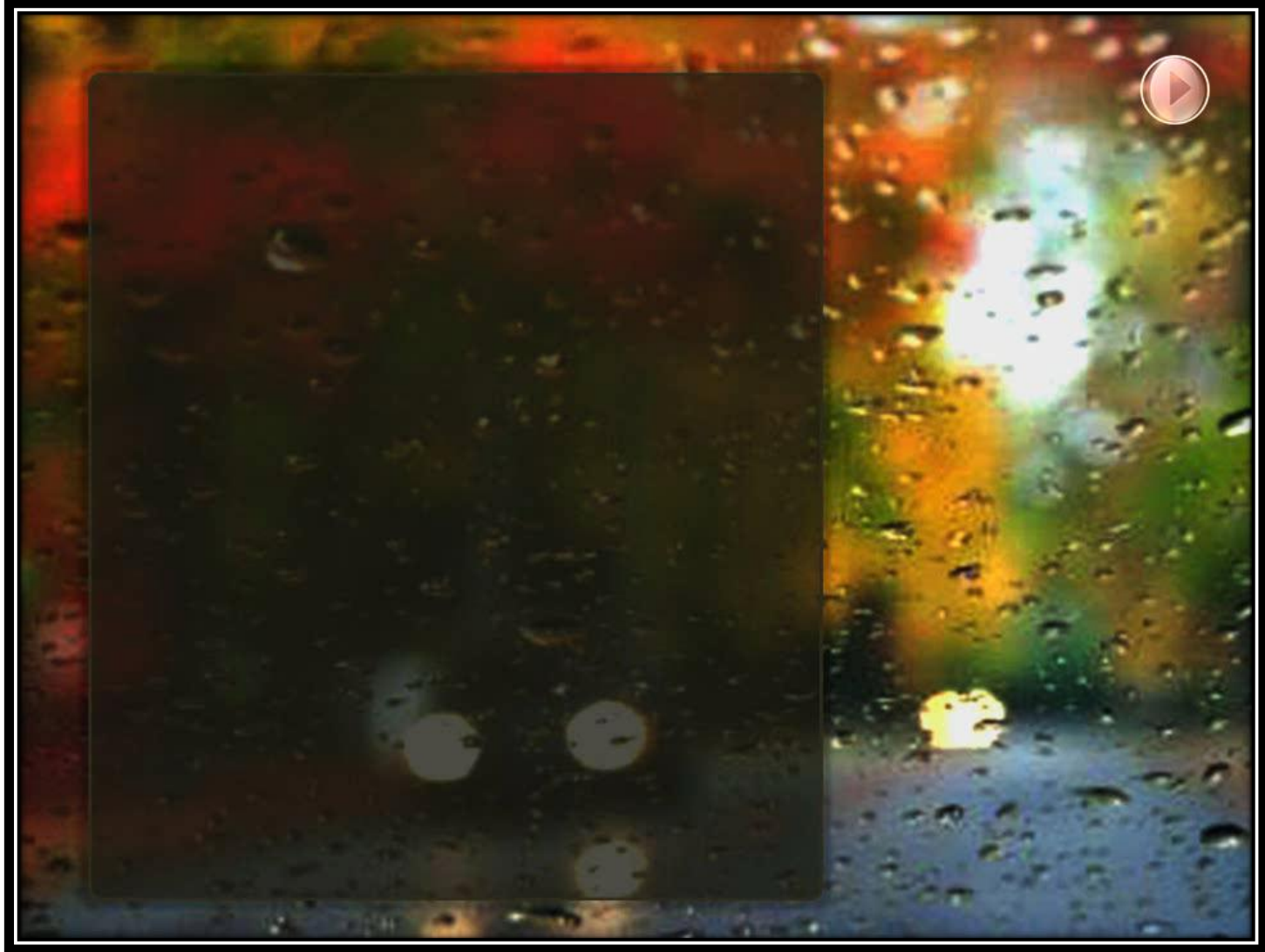




# Low Light and Rain

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# Managing Adverse Conditions



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Lights must be dimmed when oncoming vehicles are within 1,000 feet and 500 feet of overtaking a vehicle

Low beams must show vehicles and people at 100 feet ahead

# Vehicle Lights

High beams must show vehicles and people at 350 feet ahead

Brake lights must be RED or AMBER and be visible 100 feet in sunlight

Headlights on a half hour after sunset until a half hour before sunrise or whenever visibility can't be seen at 500 feet or less

All vehicles must have two red taillights that can be seen for 500 feet

# Can You Stop in Time?



Speed	Rate of travel	Four seconds front space	Stopping distance: passenger car, good traction	Can you stop in time? Low beam/High beam
45 mph	68 Ft./Sec	272 Feet	158 Feet	Yes / Yes
50 mph	74 Ft./Sec	296 Feet	190 Feet	No / Yes
55 mph	83 Ft./Sec	332 Feet	233 Feet	No / Yes
60 mph	88 Ft./Sec	352 Feet	275 Feet	No / No





# ADVERSE CONDITIONS: ROADWAY SURFACE

# Hydroplaning

**Even good tires can't grip the road when you drive too fast for conditions.**

**Hydroplaning can happen at speeds as low as 35 mph.**



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**What other roadway conditions require you to drive at speeds lower than the posted speed?**







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# Skid Recovery



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# Hot Weather

Outside the  
vehicle

Inside the vehicle

Vehicle operating  
at extremes

A black and white photograph of a thermometer is positioned diagonally on the left side of the slide. The thermometer's scale ranges from -40 to 60, with major markings every 10 units and minor markings every 2 units. The dark liquid inside the bulb is at approximately -38. The background of the entire slide is a bright, cloudy sky.

# Hot Weather

## Outside the vehicle

- Summertime brings out thousands of joggers and cyclists—be aware of them and share the road.
- Drive in the cooler parts of the day.
- Take breaks on long drives.



# Hot Weather

## Inside the vehicle

- Never leave a child or pet in a parked car in summer heat. The outside temperature in the 80s can quickly bring a car's interior to well over 140°.
- Always lock the doors and trunk—even at home—and keep keys out of children's reach.
- Watch children closely around cars, particularly when loading and unloading.



# Hot Weather

## Inside the vehicle

- Check to ensure that all children are accounted for when leaving the vehicle.
- Don't overlook sleeping infants in the back seat.
- Check the surface temps of seats, car seats, and boosters.





# Hot Weather

## Vehicle Operation

- Prepare the vehicle to take the stress of high temperatures in the summer
  - ☐ Check tire air pressure
  - ☐ Check the air conditioner
  - ☐ Check engine coolant

Working together make a list of what you need to do to prepare for driving in cold weather and hot weather.

# **WHAT SHOULD YOU DO TO PREPARE?**

# Preparing for Adverse Conditions

- Food
- Water
- Warm Clothing
- Blanket
- Reflective or high visibility apparel
- Cell Phone
- First Aid Kit
- Full tank of gas
- Tires with good tread
- Studded snow tires
- Chains
- Flares or reflective markers
- GPS and map
- Small shovel
- Sand or kitty litter

[MDT Winter Survival Guide](#)

# Before you go ...

- Check the weather forecast.
- [MDT Travel App](#)
- Plan your route and tell your parents, family member or friend.
- Stick to your route.
- Update parents or friends when route changes.

# Adverse Conditions Summary

Know:

- The dangers of driving in adverse conditions.
- What you are capable of.
- What your car is capable of.
- Your limitations—it's ok to say you shouldn't drive.

**When driving conditions are unfavorable,  
you don't have to drive –  
stay home and stay safe!**

# Montana Driver Education and Training Standards and Benchmarks

## 1. Laws and Highway System

- 1.1. know the laws outlined in the Montana Driver's manual;
- 1.2. understand the laws outlined in the Montana Driver's Manual; and
- 1.3. consistently demonstrate knowledge and understanding by responsible adherence to highway transportation system traffic laws and control devices.

## 2. Responsibility

- 2.1. recognize the importance of making safe and responsible decisions for owning and operating a motor vehicle;
- 2.2. demonstrate the ability to make appropriate decisions while operating a motor vehicle;
- 2.3. consistently display respect for other users of the highway transportation system; and
- 2.4. develop positive habits and attitudes for responsible driving.

## 3. Visual Skills

- 3.1. know proper visual skills for operating a motor vehicle;
- 3.2. communicate and explain proper visual skills for operating a motor vehicle;
- 3.3. demonstrate the use of proper visual skills for operating a motor vehicle; and
- 3.4. develop habits and attitudes with regard to proper visual skills.

## 4. Vehicle Control

- 4.1. demonstrate smooth, safe and efficient operation of a motor vehicle; and
- 4.2. develop positive habits and attitudes relative to safe, efficient and smooth vehicle operation.

*(continued on next slide)*

# Montana Driver Education and Training

## Standards and Benchmarks

### 5. Communication

- 5.1. consistently communicate driving intentions (i.e., use of lights, vehicle position, and personal signals);
- 5.2. adjust driver behavior based on observation of the highway transportation system and other roadway users;
- 5.3. adjust communication (i.e., use of lights, vehicle position, and personal signals) based on observation of the highway transportation system and other users; and
- 5.4. develop positive habits and attitudes for effective communication.

### 6. Risk Management

- 6.1. understand driver risk-management principles;
- 6.2. demonstrate driver risk-management strategies; and
- 6.3. develop positive habits and attitudes for effective driver risk-management.

### 7. Lifelong Learning

- 7.1. identify and use a range of learning strategies required to acquire or retain knowledge, positive driving habits, and driving skills for lifelong learning;
- 7.2. establish learning goals that are based on an understanding of one's own current and future learning needs; and
- 7.3. demonstrate knowledge and ability to make informed decisions required for positive driving habits, effective performance, and adaptation to change.

### 8. Driving Experience

- 8.1. acquire at least the minimum number of BTW hours over at least the minimum number of days, as required by law, with a Montana-approved driver education teacher; and
- 8.2. acquire additional behind-the-wheel driving experience with a parent or guardian's assistance in a variety of driving situations (i.e., night, adverse weather, gravel road, etc.).